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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,052	12/09/2003	Richard Barina	RPS920030213US1	2646

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EXAMINER

SHARP, JEFFREY ANDREW

ART UNIT PAPER NUMBER

3677

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/731,052	Applicant(s) BARINA ET AL.	
	Examiner Jeffrey Sharp	Art Unit 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Claims

- [1] Claims 1-13 are pending.

Drawings

- [2] The drawings are objected to because:

They are unclear due to dark shading and bright contrast. Figures 3d-3f appear 'see-through'. Figure 4d is not to scale.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified

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and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

[3] The disclosure is objected to because of the following informalities:

The '*Figure Component Listing*' table, although helpful to the Examiner, should not appear in the specification. All references to elements and drawing numerals should be substantially disclosed in the body text.

Appropriate correction is required.

Claim Objections

[4] Claim 7 is objected to because of the following informalities:

A semi-colon precedes a comma on line 10 of claim 7.

There is insufficient antecedent basis for 'locking cam' on line 14 of claim 7.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

- [5] The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

- [6] Claim 7 is rejected under 35 U.S.C. 102(b) as being anticipated by Mita et al. US-6,206,606.

Mita et al. teach (refer to Figure 1) a locking pin comprising:

- 1) sleeve (2)
- 2) base (2a)
- 3) mating side (upper 2)
- 4) first rotation limiting channel or pin (8) -- See also, US-4,391,461
element (36,34)
- 5) first locked indicator (8 also serves this dual purpose)
- 6) projection side (2b)
- 7) anti-rotation protrusion (*could* be mated to a keyway) (10 or square corners
prevent rotation and could be considered protrusions on a cylindrical
portion below) See also, RE 16,062 Pg 1 lines 97-101.

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- 8) cam opening (2c)
- 9) expandable projection (2b)
- 10) cylindrical portion (2b...although square, is an equivalent cylindrical portion with anti-rotation protrusion corners...see above numeral 7).
- 11) conical portion (lower 2b)
- 12) expandable opening (2c)
- 13) bullet nose (lower 2b)
- 14) locking cam unit (3)
- 15) thumb grip (13, could be turned with thumbnail...simple inverse of a tab)
- 16) cam unit disk (3a)
- 17) second locked indicator (15)
- 18) second rotation limiting channel or pin (15 like 8, serves two purposes) See also, US-4,391,461 element (36,34)
- 19) locking cam (17) having
- 20) an elliptical (i.e., 'oblong') shape

As for lines 14-15, See US-3,272,061 Col 2 lines 36-41 for supporting inherency.

Claim Rejections - 35 USC § 103

- [7] The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

[8] Claims 1-4, 6, and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mita et al. US-6,206,606 in view of Gordon US-6,474,921 and Coules US-4,007,516.

Mita et al. teach (refer to Figure 1) a locking pin comprising:

- 1) sleeve (2)
- 2) base (2a)
- 3) mating side (upper 2)
- 4) first rotation limiting channel or pin (8) -- See also, US-4,391,461
element (36,34)
- 5) first locked indicator (8 also serves this dual purpose)
- 6) projection side (2b)
- 7) anti-rotation protrusion (*could* be mated to a keyway) (10 or square corners
prevent rotation and could be considered protrusions on a cylindrical
portion below) See also, RE 16,062 Pg 1 lines 97-101.
- 8) cam opening (2c)
- 9) expandable projection (2b)
- 10) cylindrical portion (2b...although square, is an equivalent cylindrical portion
with anti-rotation protrusion corners...see above numeral 7).
- 11) conical portion (lower 2b)
- 12) expandable opening (2c)
- 13) bullet nose (lower 2b)
- 14) locking cam unit (3)

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- 15) thumb grip (13, could be turned with thumbnail...simple inverse of a tab)
- 16) cam unit disk (3a)
- 17) second locked indicator (15)
- 18) second rotation limiting channel or pin (15 like 8, serves two purposes) See also, US-4,391,461 element (36,34)
- 19) locking cam (17) having
- 20) an elliptical (i.e., '*oblong*') shape

Mita et al. do not disclose expressly:

- 21) a castled perimeter (although ridge near 9 on base 2a with first rotation limiting channel or pin 8 may be broadly considered a '*castled perimeter*' by some)
- 22) a retention groove
- 23) a cam-retaining bulge
- 24) a retention lip
- 25) a concave indentation on the locking cam

Gordon suggests a retention groove (122,60) and retention lip (122,60) to hold a cam unit and sleeve together, and prevent axial separation, while still permitting relative rotation between the two (See end of Col 3 - beginning of Col 4). This would be considered by those of ordinary skill in the art, as an equivalent or improved way of securing two fastener parts together over the tethered parts shown by Mita et al. Note that Gordon similarly discloses a raised thumb grip (116), rotation-limiting pin (86), and rotation-limiting channel (around 130,160). There is locking indicia on the top of the locking cam unit (see Figure 6).

Coules suggests the equivalent inverse of a cam-retaining bulge (15), and a concave indentation on the locking cam (39), in order to accomplish the same locking 'tactile feedback' and to prevent rotation of the locking cam when in a locked position. Note that the locking cam comprises a generally elliptical shape (See also, US-2,571,641), and that the locking cam taught by Coules, (similar to Applicant) provides both an expanding function, and '*tactile feedback*' (i.e., '*positive clicking*') function by acting as a detent with the sleeve's expandable portion. Note that Coules expects a dielectric material, and use within electronic applications (Col 1 lines 18-28). See also, US-6,435,790 Figures 10 and 11, which shows bulge (82) and concave indentation (55) acting to similarly equip the locking pin with a '*tactile feedback*' when in a locked position. See further, US-5,620,291 Col 3 lines 17-19. LeVey US-6,045,309 also shows the inverse cam structure to that of Applicant, showing a locking cam (46,48,50) that both expands members (56,58) and creates a '*tactile feedback*' through engagement with concave indentations (74,73) on the expandable projection of the sleeve (14).

At the time of invention, it would have been obvious to one of ordinary skill in the art to modify the locking pin taught by Mita et al., to include the retention groove and lip taught by Gordon, in order to allow an alternative means for preventing separation that is less bulky than a tether, and allows easier rotation without the twisting strap shown by Mita et al.

At the time of invention it would have further been obvious to one of ordinary skill in the art to modify the locking pin taught by Mita et al., to include the elliptical retaining bulge and mating concave indentation on either the sleeve or locking cam as suggested by Coules, in order to prevent rotation of the pin element when in a locked position, while still simultaneously serving to expand the lower expandable portion of the sleeve.

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The Examiner does not see how the castled projections of the base member on the sleeve provides any benefit or solves any problem of the prior art, and has been considered an aesthetic design choice for a lock indicator. See MPEP 2144.04 about aesthetic design changes.

Claims 2-4 are inherent from the disclosure of the abovementioned references.

As for claim 6, see Mita et al. Col 3 lines 41-42.

[9] Claims 5, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mita et al. US-6,206,606 in view of Gordon US-6,474,921 and Coules US-4,007,516 as discussed above, in even further view of Kelly et al. US-6,394,724.

Mita v. Gordon and Coules teaches all the limitations of the instant claim 1, however, does not disclose expressly different colored locking pin and sleeve.

Kelly et al. teach the advantage of color-coding plastic fasteners for easy identification, and to prevent breaking one or the other due to using non-matching parts (See Kelly et al. Col 1 lines 40-50).

At the time of invention, it would have been obvious to one of ordinary skill in the art to modify the locking pin taught by Mita v. Gordon and Coules, to comprise differently-colored pin and sleeve as suggested by Kelly et al, in order to easily identify mating parts.

[10] Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mita et al. US-6,206,606 in view of Coules US-US-4,007,516 for the reasons substantially discussed above.

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Mita et al. teach all of the limitations in the instant claim 7, however do not disclose expressly a cam retaining bulge and concave indentation in each part of the cam.

Coules teaches a substantially equivalent inverse, having the concave indentations on the inner sleeve, and the cam-retaining bulge on the locking cam unit in a reversed manner. The bulge and indentations serve similarly to provide a locking detent upon full expansion as discussed above. See MPEP 2144.04 about reversal and re-arrangement of parts.

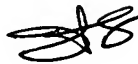
At the time of invention it would have further been obvious to one of ordinary skill in the art to modify the locking pin taught by Mita et al., to include the elliptical retaining bulge and mating concave indentation on either the sleeve or locking cam as suggested by Coules, in order to prevent rotation of the pin element when in a locked position, while still simultaneously serving to expand the lower expandable portion of the sleeve.

Conclusion

[11] The prior art made of record and not relied upon is considered pertinent to applicant's disclosure is as follows:

US 6209178 B1	USPAT	Wiese; Heiner et al.
US 5718549 A	USPAT	Noda; Yusuke et al.
US 5083926 A	USPAT	Kissinger; Paula A. et al.
US 4956900 A	USPAT	Mair; Bernard
US 4762437 A	USPAT	Mitomi; Seiji
US 4571134 A	USPAT	Beglinger; Gregory O. et al.
US 4285103 A	USPAT	Inamoto; Hiroshi
US 4262394 A	USPAT	Wright; Andrew C. W.
US 3220078 A	USPAT	PREZIOSI JOSEPH R
US 2749789 A	USPAT	SAM SAM W
US 20020021950 A1	US-PGPUB	Ichikawa, Kouji
US 6435790 B1	USPAT	Ichikawa; Kouji

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US 6045309 A	USPAT	LeVey; Kenneth
US 5368427 A	USPAT	Pfaffinger; David A.
US 4647262 A	USPAT	Yokota; Hiroshi
US 4391461 A	USPAT	Deibele; Florian C.
US 3964364 A	USPAT	Poe; L. Richard
US 3272061 A	USPAT	ALEXANDER SECKERSON CLIFFORD
US 3171182 A	USPAT	DANEHY ALOYSIUS L
US 2571641 A	USPAT	WING GEORGE S
US 2233242 A	USPAT	BURKE JAMES P
US RE16062 E	USPAT	Name not available TOMKINSON 
US 6679646 B2	USPAT	Quardt; Dirk et al.
US 6676324 B1	USPAT	Pleiss; Eberhard
US 5620291 A	USPAT	Hayes; Earl J. et al.
US 3918130 A	USPAT	Poe; L. Richard
US 5586364 A	USPAT	Ferrari; Franco et al.
US 3849839 A	USPAT	Zimber; Eric

[12] Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey Sharp whose telephone number is (703) 305-0426. The examiner can normally be reached on 7:30 am - 5:00 pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on (703) 306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JAS


ROBERT J. SANDY
PRIMARY EXAMINER